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U.S. Department of Agriculture  
Forest Service

APPALACHIAN FOREST EXPERIMENT STATION  
R. E. McArdle, Director

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Compiled by

Josephine Laxton, Librarian.

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1. The first part of the paper is devoted to a general discussion of the problem of the existence of a solution of the system of equations

$$\frac{dx}{dt} = A(x)u, \quad \frac{dy}{dt} = B(x)y,$$

where  $A(x)$  and  $B(x)$  are matrices depending on  $x$ , and  $u$  is a vector function.

2. In the second part, we consider the case when the matrix  $A(x)$  is constant, and the matrix  $B(x)$  is a function of  $x$ .

3. In the third part, we consider the case when the matrix  $A(x)$  is a function of  $x$ , and the matrix  $B(x)$  is constant.

4. In the fourth part, we consider the case when both matrices  $A(x)$  and  $B(x)$  are functions of  $x$ .

5. In the fifth part, we consider the case when the matrix  $A(x)$  is a function of  $x$ , and the matrix  $B(x)$  is a function of  $x$ .

6. In the sixth part, we consider the case when the matrix  $A(x)$  is a function of  $x$ , and the matrix  $B(x)$  is a function of  $x$ .

7. In the seventh part, we consider the case when the matrix  $A(x)$  is a function of  $x$ , and the matrix  $B(x)$  is a function of  $x$ .

8. In the eighth part, we consider the case when the matrix  $A(x)$  is a function of  $x$ , and the matrix  $B(x)$  is a function of  $x$ .

9. In the ninth part, we consider the case when the matrix  $A(x)$  is a function of  $x$ , and the matrix  $B(x)$  is a function of  $x$ .

10. In the tenth part, we consider the case when the matrix  $A(x)$  is a function of  $x$ , and the matrix  $B(x)$  is a function of  $x$ .

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